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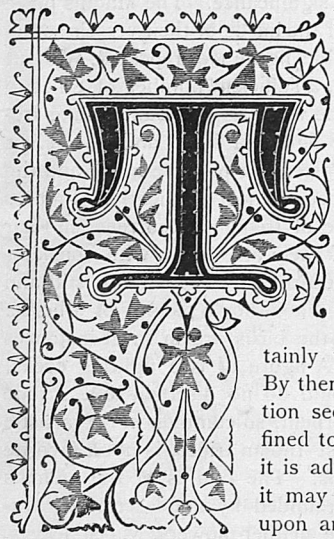
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INDUSTRIAL ART

ANCIENT AND MODERN MOSAICS.

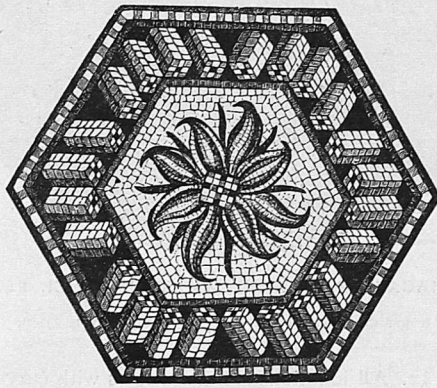


THE art of mosaics—that is, of producing the effect of painting by inlaying small pieces of colored stone or other hard substance—is of such antiquity that it is difficult to say when it was first acquired. The Egyptians and the Assyrians certainly were familiar with it. By them, however, its application seems to have been confined to pavements, for which it is admirably adapted, since it may be frequently trodden upon and washed without its being injured.

At a later period mosaics were executed upon walls; and more recently, extremely minute mosaics, either for cabinet or for personal ornament, have been made, chiefly in Italy. Superb specimens are to be seen in St. Peter's at Rome, and in the chapel of St. Lawrence at Florence, where precious marbles, agates, jaspers, aventurines, and malachites, constitute the colored tesserae. For the present, however, it is our purpose to speak particularly of the ancient Roman mosaics.

These have been divided into four classes—namely, tessellated and sectile, applied to pavements generally; fictile and vermiculated or pictorial, applied to walls and vaults. The most ancient of these probably is the tessellated; it consisted of small cubes of marble, seldom averaging more than three quarters of an inch square, worked by hand into such simple geometrical figures as, when combined, would but compose a large figure, equally geometrical, but of course more intricate. The best examples of this work are to be found at Pompeii and at the baths of Caracalla. The sectile or sliced work was formed, according to some writers, of the different slices of marble of which figures and ornaments were made; other writers say that these slices were never employed to imitate figures or any actual subject, but produced their effect solely through the shape, color, and vein of the marbles which were contrasted. No piece or fragment of ancient sectile work imitating a subject of any kind has been found among either the Greek or Roman remains. The finest example of sectile work extant is the splendid pavement of the Pantheon at Rome, where the principal marbles are arranged, each of great superficial extent, in alternate round and square slabs. The building of the Pantheon was finished about thirty years before the Christian era. The fictile work was composed of small portions of mixed silex and alumina, colored by the addition of one of the metallic oxides. The principal advantages offered by this material were that it could be obtained of any variety of color, from the most delicate to the most intense; that it could be easily reduced to any given form; that it was far less costly than the precious marbles; and, lastly, that it could be covered with an untarnishable gilding. Hence it became very popular, and the "vitreae parietes," or glassy walls, were the prevailing

decorations of Roman houses from the earliest imperial times. The vermiculated mosaic was applied to the direct imitation of figures, ornaments, and pictures, the entire subject being portrayed in its true shades and colors by a judicious arrangement of small cubes of different colored marbles, and where extreme brilliancy was required, by the aid of gems and pieces of fictile work. This kind of mosaic may be divided into three subdivisions, not of difference of work, but of scale. The larger was generally employed for large pavements or ceilings, and represented figures of gods and centaurs or the like, commonly in black and white marble only. The middle style of mosaic was a much finer kind of work, and such subjects were generally executed in it as demanded greater delicacy in the treatment and



MOSAIC PANEL. IN THE SOUTH KENSINGTON MUSEUM.

softness in the shades and tints; cupids and children, for example, flowers and festoons. This kind of mosaic was used chiefly in decorating walls; but some beautiful specimens have been found at Pompeii, where they were used as pavements in the chief parts of the house. Of this kind is "The Battle of Issus," the great Pompeian mosaic now in the Vatican, and illustrated in the present article.



ANTIQUE MOSAIC. FOUND IN ROME.

"The Battle of Issus"—the largest mosaic in the world—is an admirably executed picture of the famous conflict between Alexander the Great and the Persians under Darius, B.C. 333, in which, according to Diodorus Siculus, the Persians, whose host consisted of 500,000 men, had 110,000 slain, while the Macedonians lost less than 500 men.

Our other illustrations represent a portion of antique

mosaic found in Rome, and an antique mosaic panel in the South Kensington Museum.

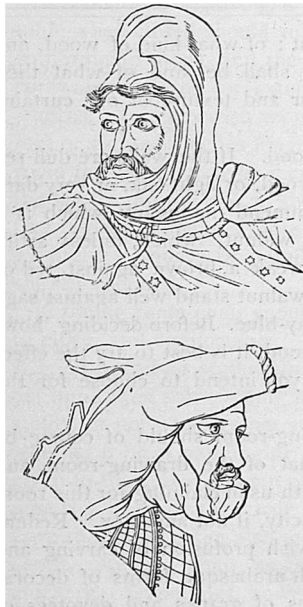
It is not generally known, perhaps, that the first type for the appearance of Jesus was supplied by a glass mosaic said to have been executed as early as the first century, and another of the fourth century was found in the cemetery of San Calisto at Rome, and is now preserved in the Vatican. These mosaic pictures were zealously copied, and furnished the general resemblance of physiognomy, with the peculiar Byzantine character of the head, in many of the portraits of the founder of Christianity dating from the fourth to the tenth century. Another variety of Christian mosaic consisted in the insertion into grooves, cut to the depth of about half an inch in white marble, of small cubes of colored and gilded "smalto" (as the Italians call the material of which mosaic is composed), and in the arrangement of them in such geometrical combination as to make most elaborate patterns. The earliest specimen is believed to be the chair and tribune in the Church of San Lorenzo at Rome, made probably about 580. In the thirteenth century the Italians began to learn to make mosaics for themselves, and produced several great artists, the last of whom was Gaddo Gaddi, who executed the great mosaic still existing on the façade of the Church of Santa Maria Maggiore. Among the gifts lately received by the Louvre is a mosaic tile pavement covered with arabesque ornaments in the style of the Italian renaissance, which formed the altar-steps in the chapel of the château de La Bâtie in the Forez. It bears the date of 1557, and is said to form a magnificent specimen of French ceramic art of the time.

It was not alone in Europe that mosaics were employed. During the Middle Ages the art flourished among Eastern nations—in India in the form of inlaying with precious stones, marbles, and colored compositions; in Turkey and Asia Minor in the production of large pieces of faience colored on the surface and fitted together; and in Spain the Moors used mosaics as an essential element for wall decoration, and occasionally for pavement. The use of mosaics gradually died out, and was only revived in the sixteenth century with the revival of learning. Italy then came to the front once more in the art, and has held her pre-eminence in it ever since; although it must be said that her modern mosaics are rather pretty and ingenious than noble and artistic, in the sense that the historical Roman mosaics were such.

The tessellated tiles made in the British potteries at the present time are formed of two or more differently colored clays, one imbedded in the other, and disposed so as to form an ornamental device. The tile is first made in clay of one color with a depression, afterward to be filled with clay of the other color, and this depression is formed by the aid of a mould. In the first place the modeller models, in stiff clay, an exact representation of one of the tiles, about an inch thick, cutting out to the depth of about a quarter of an inch the depression which constitutes the device. When this is

properly dried a mould is made from it in plaster of Paris, and from this mould all the tiles are produced one by one. The ground color of the tile is frequently a brownish clay with a yellow device; but this may be varied at pleasure. Let the color be what it may, however, the first clay is mixed up very thick and pressed into the mould by the aid of a spring press. On leaving the press it presents the form of a damp, heavy, uni-

colored square tile of clay, with an ornamental device formed by a depression below the common level of the surface. The second colored clay, so far from being made stiff like the first, has a consistence somewhat resembling that of honey; and herein lies one of the niceties of manufacture, for it is necessary to choose clays which will contract equally in baking, although of different consistence when used.

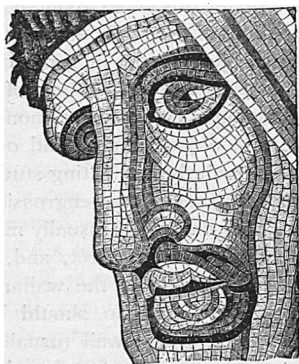


HEADS.

FROM "THE BATTLE OF ISSUS."

In this state the tiles are put in a "biscuit kiln," where they are baked in a manner nearly resembling the baking of porcelain, but with special reference, as to time and temperature, to the quality of the two clays. From the biscuit kiln they are transferred to the dripping-room, where they are coated on the upper surface with a liquid glaze by means of a brush. Lastly, an expo-

the picture to be copied, is first surrounded by a margin about three quarters of an inch from its surface. This is then covered over with a coating of perhaps one quarter of an inch in thickness of mastic cement, composed of powdered travertine stone, lime, and linseed oil. This is, when set, entirely covered with plaster of Paris rising to a level with the surrounding margin, which is intended to be exactly that of the finished mosaic. On this is traced a very careful outline of the picture to be copied; and with a fine chisel just as much is removed, from time to time, as will admit of



DETAILS OF ONE OF THE FACES.

FROM "THE BATTLE OF ISSUS."

the insertion of the little pieces of glass, or, as the Italians call it, "smalto." This smalto is composed of glass, and is made in rounds about six or eight inches in diameter and half an inch thick. The workman then proceeds to select from the great depository—wherein are preserved in trays nearly 10,000 varieties of color—those he may require, which he works to the necessary shape. This is done by striking the smalto with a sharp-edged hammer directly over a similar edge placed vertically beneath. The concussion breaks the smalto to very nearly the shape required; and it is then more perfect-

it is permanent; but this quality is obtained at an enormous price. "Is it worth it?" it may be asked. This is answered by Mr. F. W. Moody, of the South Kensington Museum. He says: "You get a permanent but necessarily inferior copy of an oil-picture for ten times the money the oil-picture itself has already cost. Now, an oil-picture with ordinary care will last 300 years. Is not that, in ninety-nine cases out of a hundred, a great deal too long? I am no advocate for permanence; it is only desirable with the finest and rarest art. An existence of fifty years, or even less, is quite long enough for the great majority of works of art. To go to an enormous expense for the mere whim of obtaining a permanent but indifferent copy of an indifferent picture seems to me, I confess, a most lamentable waste of money. With regard to the earlier, coarser, and more conventional treatment, there is more to be said in favor of its revival. It has an artistic value of its own, and can be used on the architecturally essential surfaces of walls and vaults, without in the least impairing their obvious solidity. Indeed, partly from the necessary severity of its treatment, and partly from the tesserae being imbedded in the wall itself, it has of all materials the most perfect appearance of impacted solidity. The coarser the tesserae the



HEADS.

FROM "THE BATTLE OF ISSUS."



"THE BATTLE OF ISSUS," IN THE VATICAN, SAID TO BE THE LARGEST MOSAIC IN THE WORLD.

sure to the heat of the glaze kiln for a period of twenty-four or thirty hours causes the glaze to combine with the clay, and the tiles are then finished. Another mode of producing the tesserae is by hydraulic pressure of pulverized clay, either uni-colored or variegated.

The fabrication of those pretty ornaments, generally known by the name of Roman mosaics, is altogether a different art. A plate, generally of metal, of the size of

ly ground by application to a lead-wheel with emery powder. The piece thus shaped is then moistened with a little cement and bedded in its proper situation, and so on until the picture is finished, when the whole is ground down to an even face and polished. Several regularly trained artists are now constantly employed in the fabrication of these mosaics at the Vatican.

The *only* advantage of the more finished work is that

more difficult is it to make an appropriate design which shall not be grotesque; but when made, its execution is comparatively easy. The more conventional the design the more appropriate will be the display of the barbaric splendor of gold and color. Mosaic should be imbedded in the wall itself, and its margins and mouldings, if any are shown, should be of a material not less solid than stone."